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LIVG
LOWER WILLAMETTE GROUP

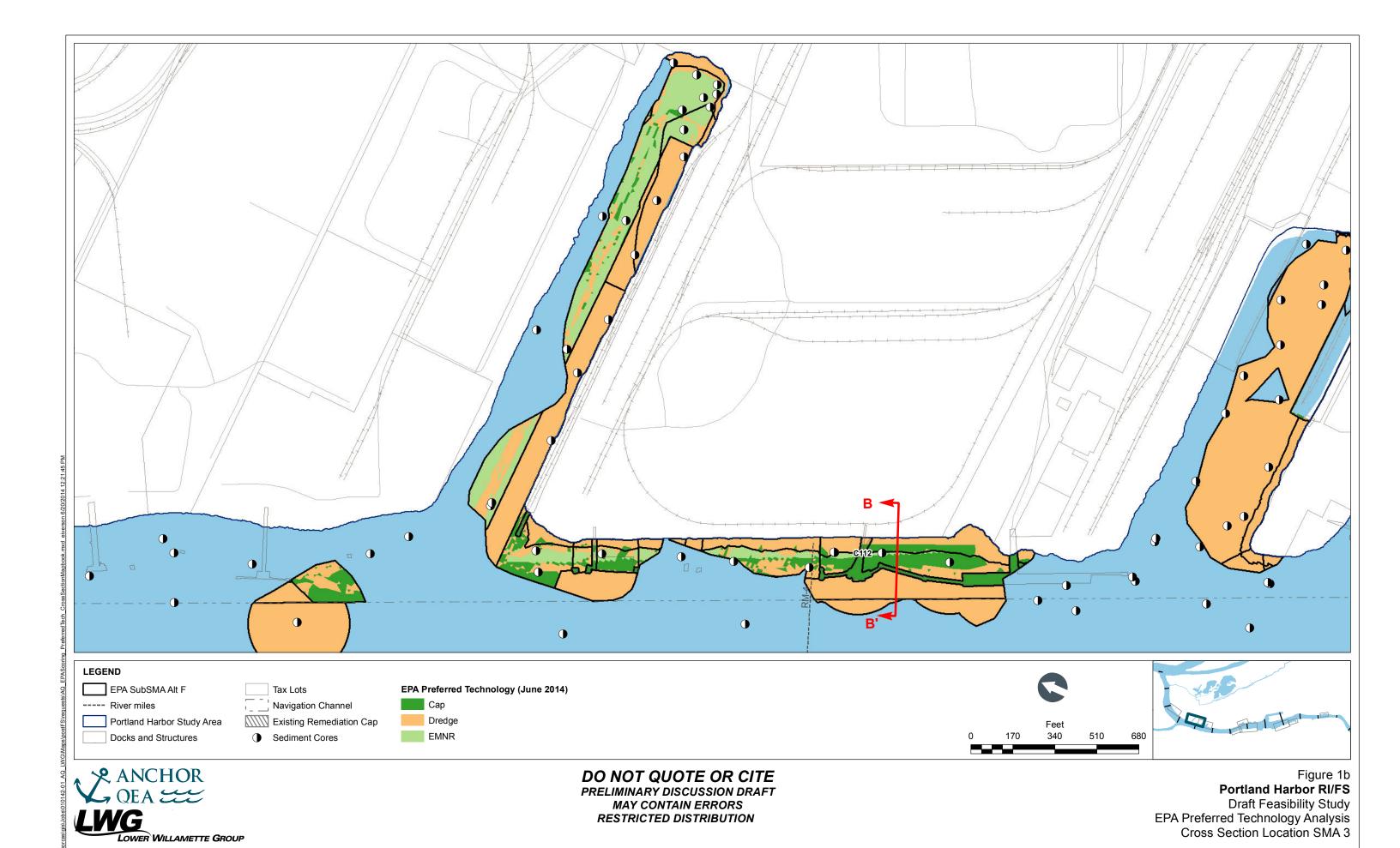
PRELIMINARY DISCUSSION DRAFT MAY CONTAIN ERRORS RESTRICTED DISTRIBUTION Figure 1a

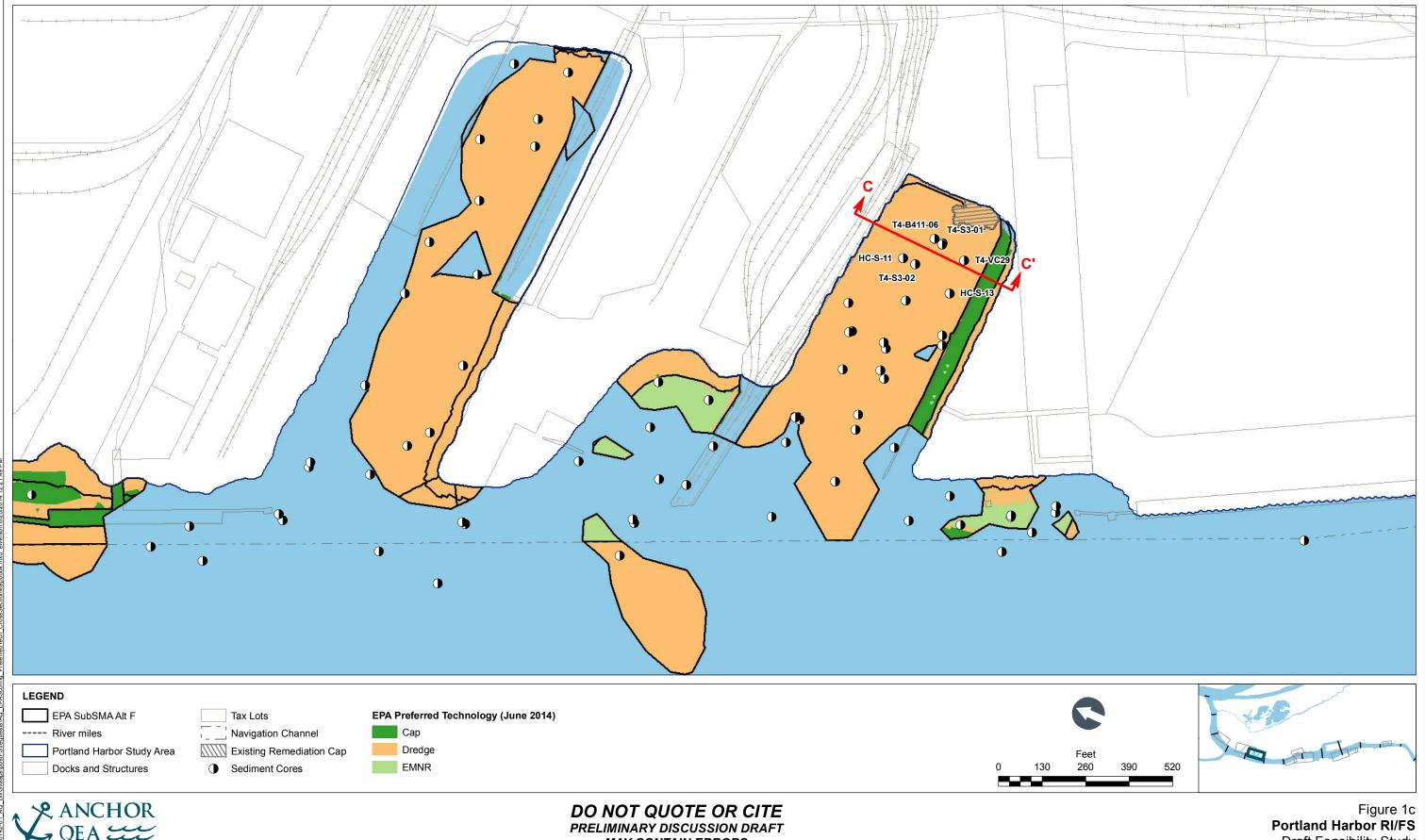
Portland Harbor RI/FS

Draft Feasibility Study

EPA Preferred Technology Analysis

Cross Section Location SMA 1A

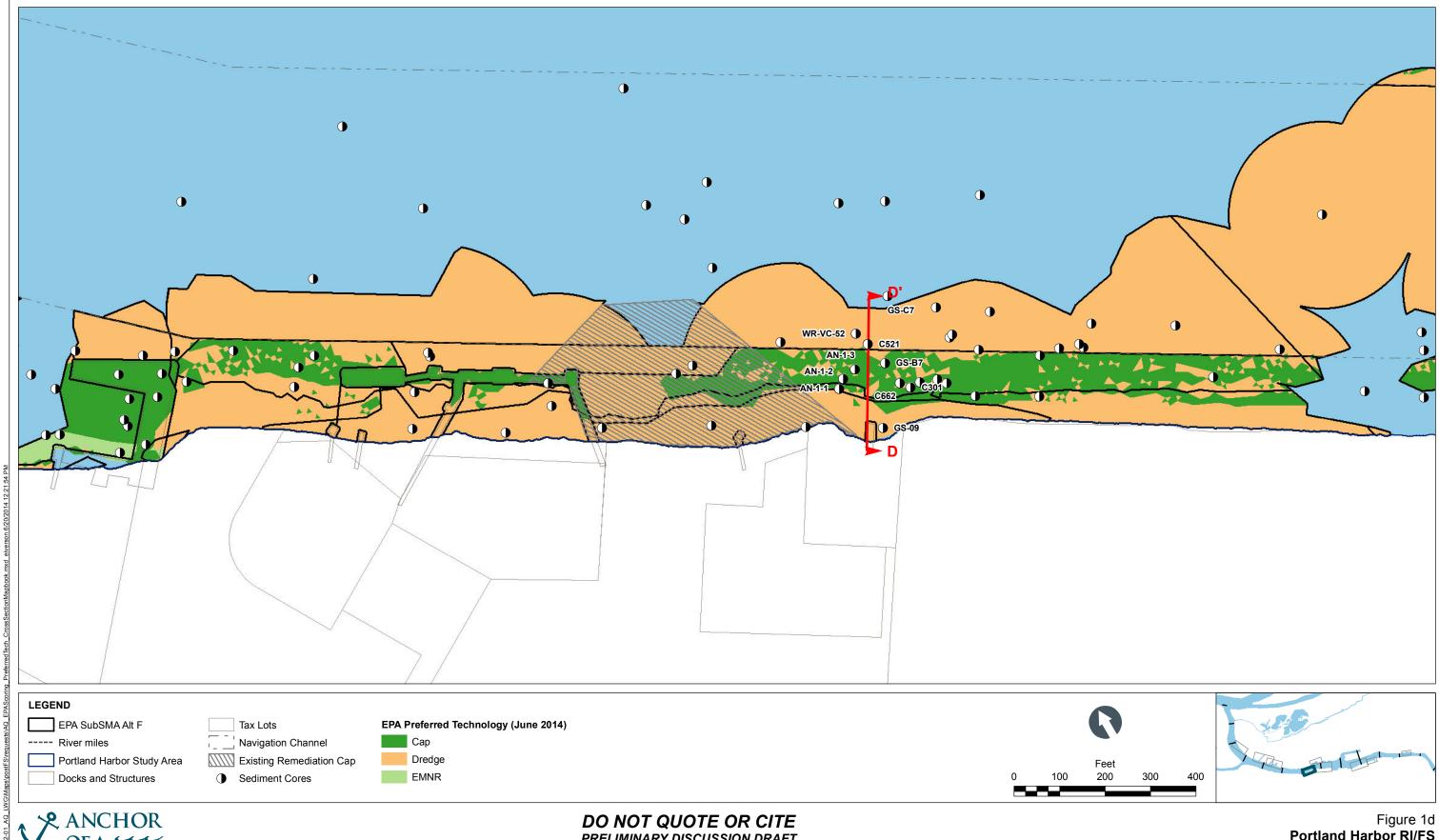




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Figure 1c
Portland Harbor RI/FS
Draft Feasibility Study
EPA Preferred Technology Analysis
Cross Section Location SMA 6



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LWG LOWER WILLAMETTE GROUP Figure 1d

Portland Harbor RI/FS

Draft Feasibility Study

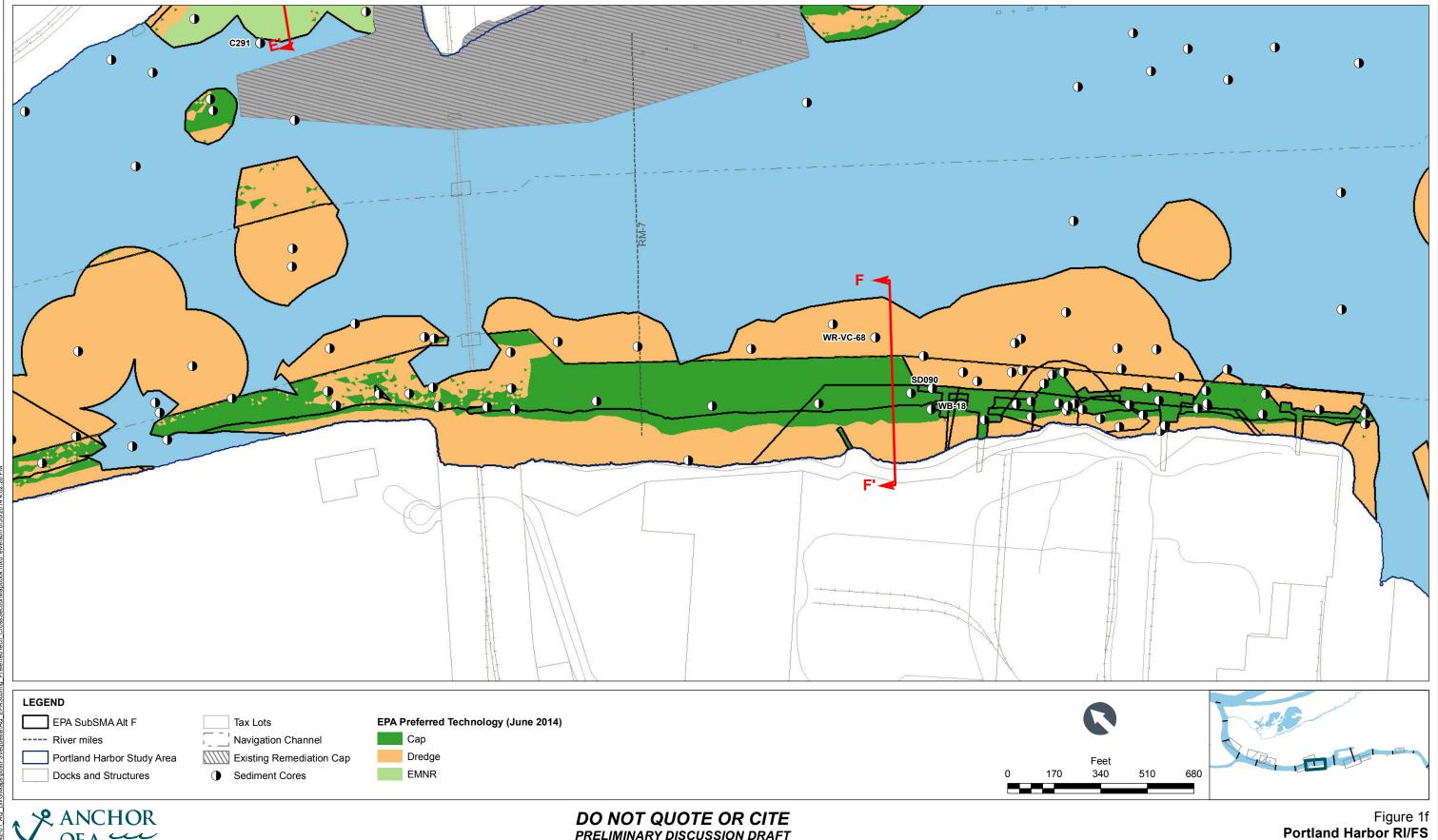
EPA Preferred Technology Analysis

Cross Section Location SMA 9



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EPA Preferred Technology Analysis
Cross Section Location SMA 13

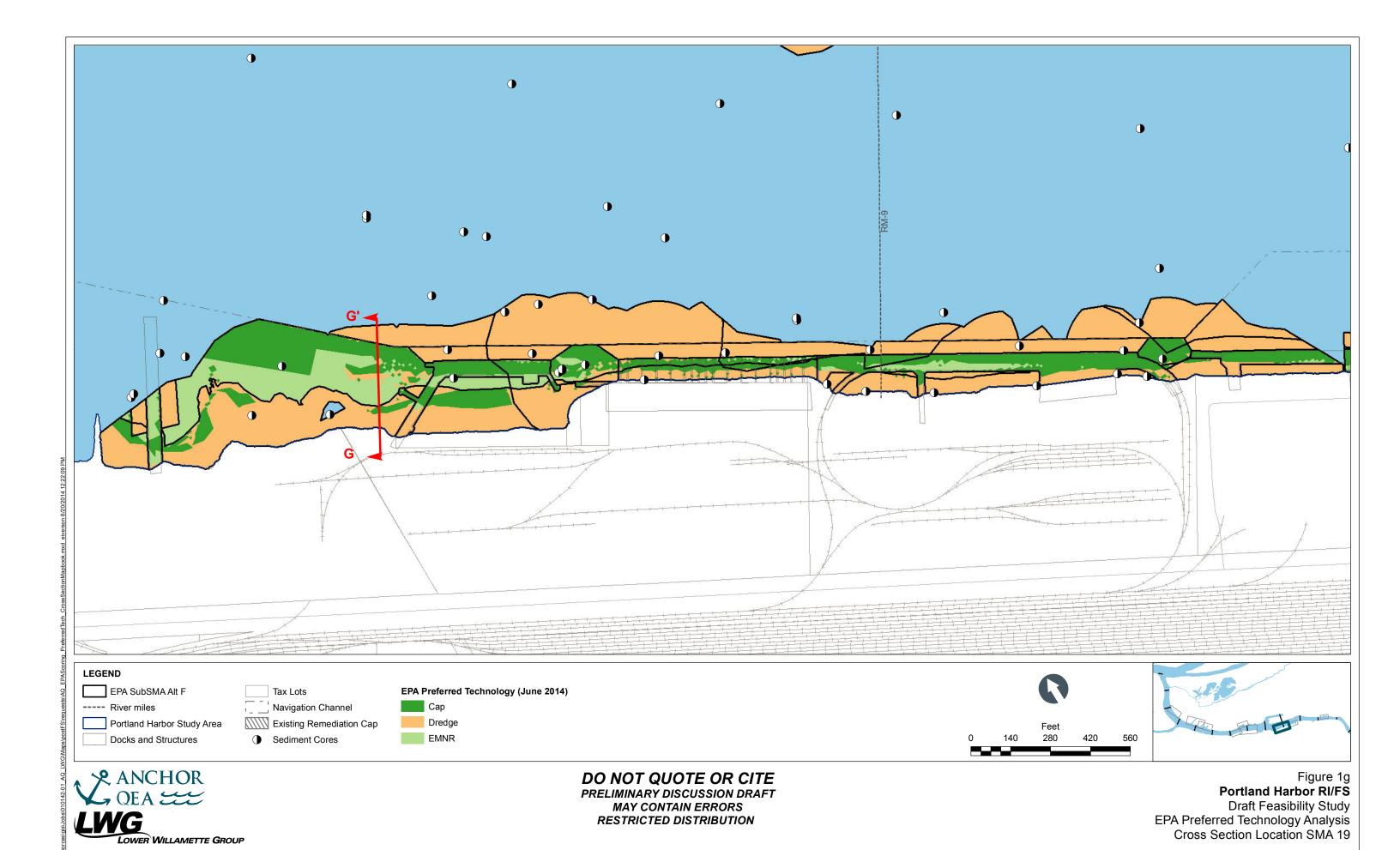


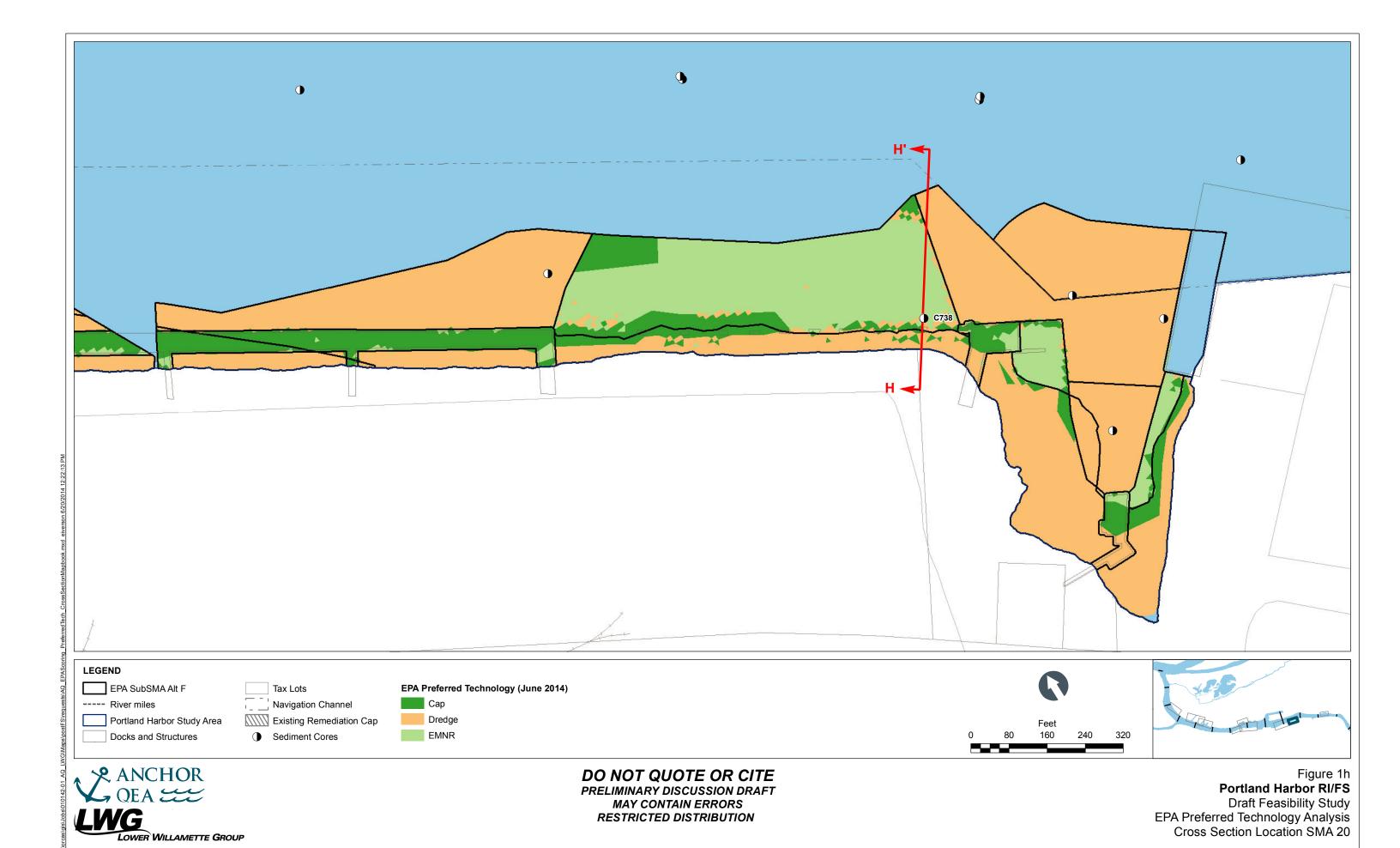
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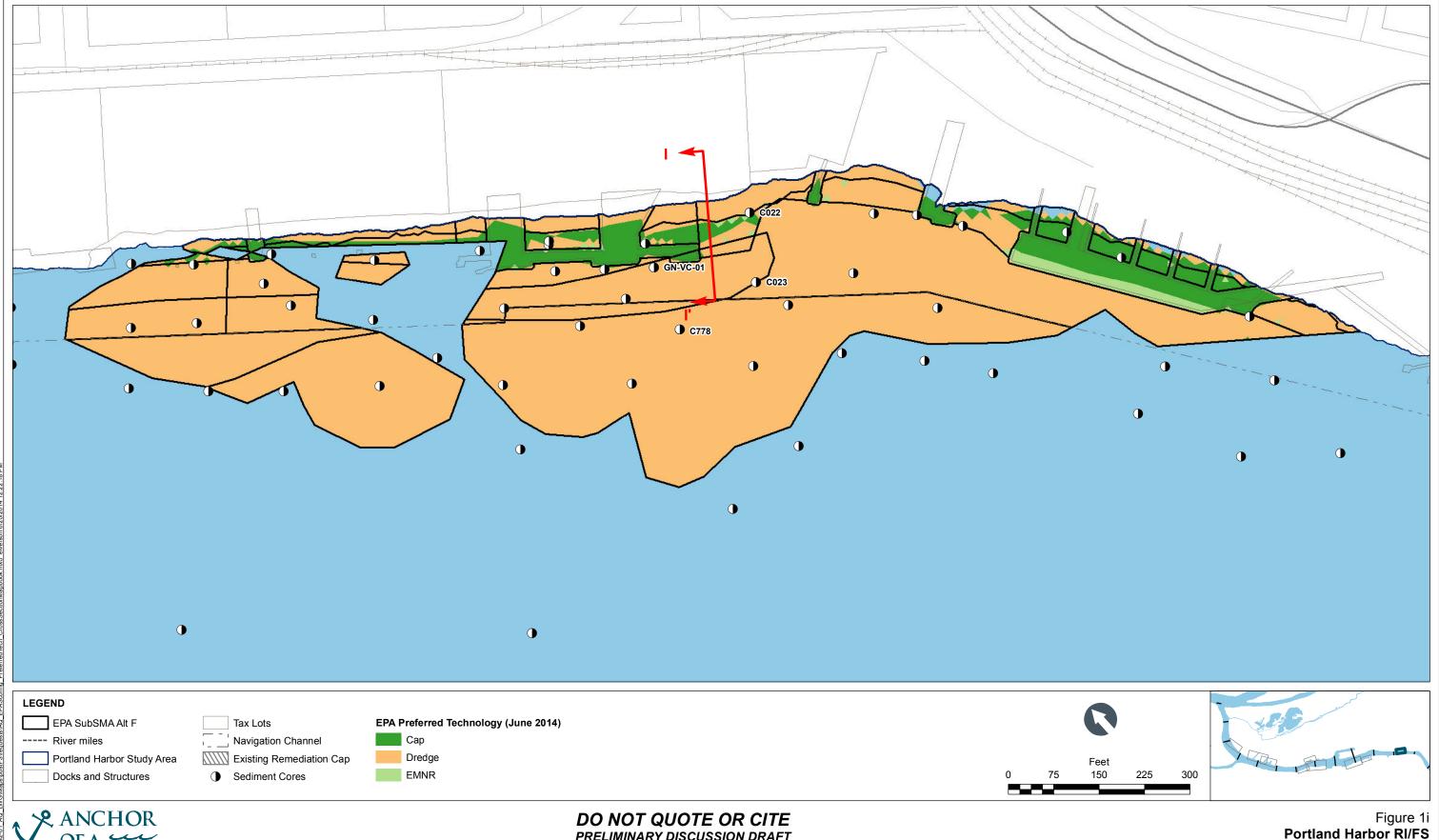
PRELIMINARY DISCUSSION DRAFT

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Draft Feasibility Study EPA Preferred Technology Analysis Cross Section Location SMA 14







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Portland Harbor RI/FS Draft Feasibility Study
EPA Preferred Technology Analysis
Cross Section Location SMA 25

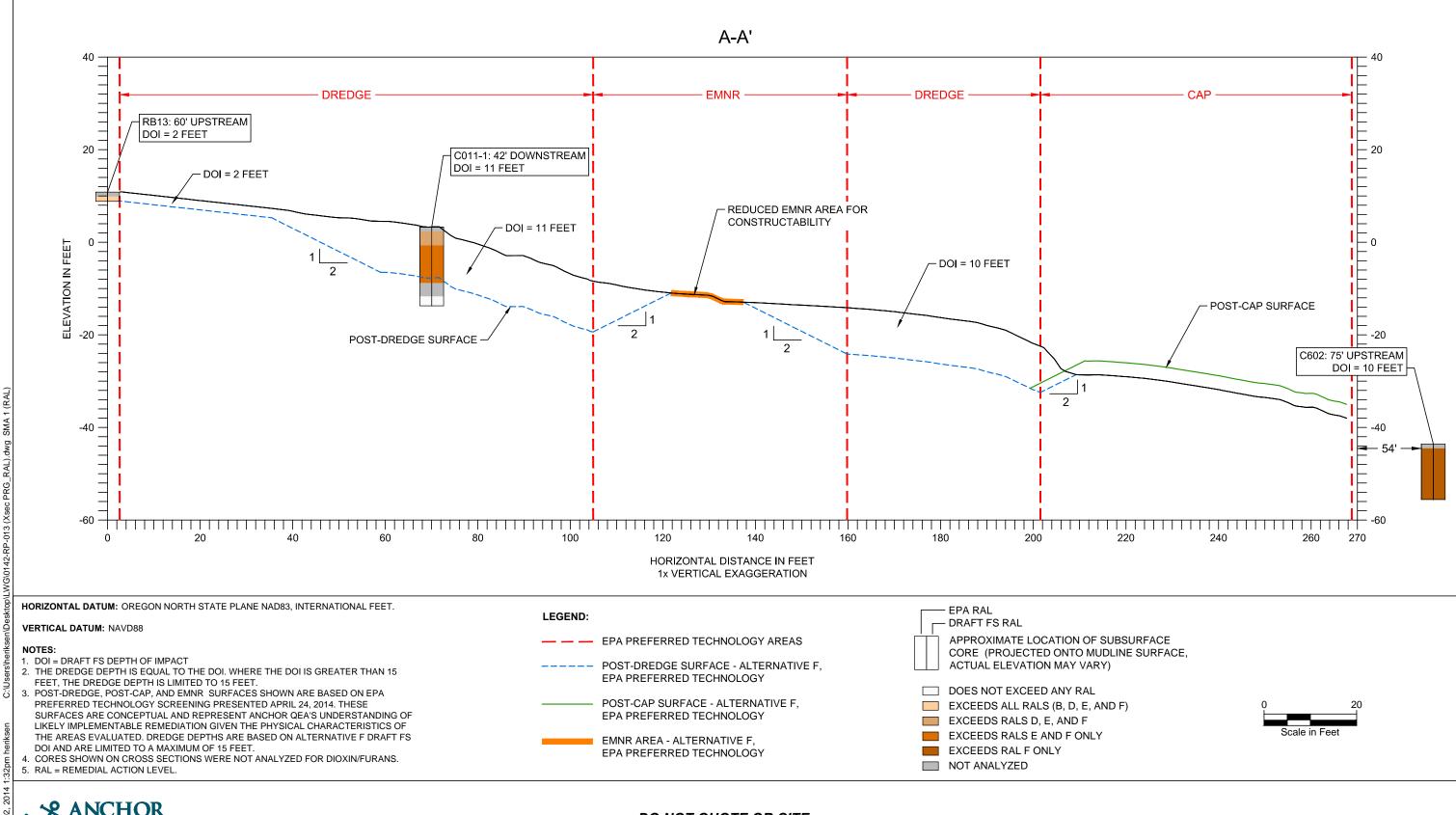






Figure 2a.1

Portland Harbor RI/FS

RAL Exceedances for Draft FS and EPA RALs

Conceptual Cross Section A-A' - SMA 1

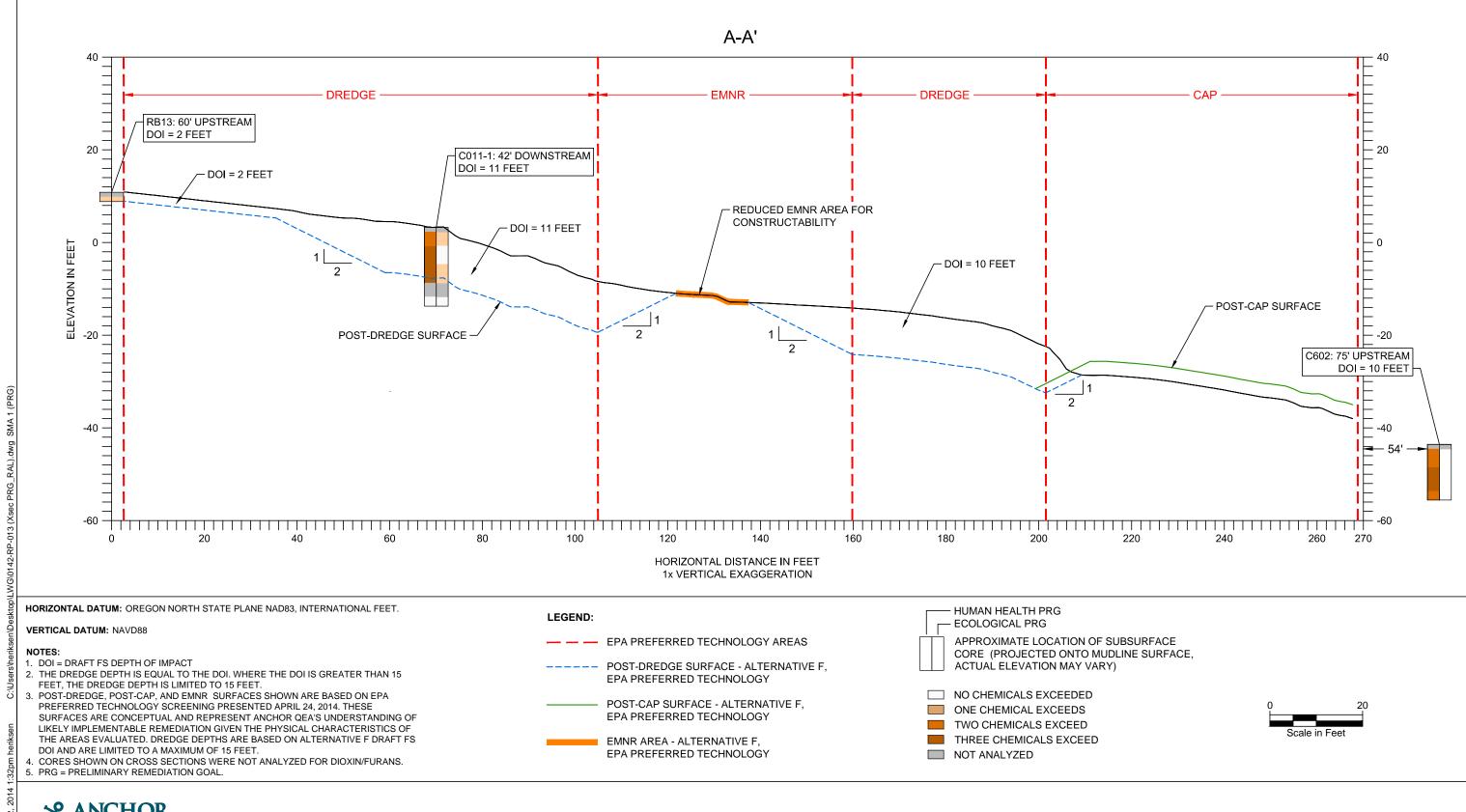




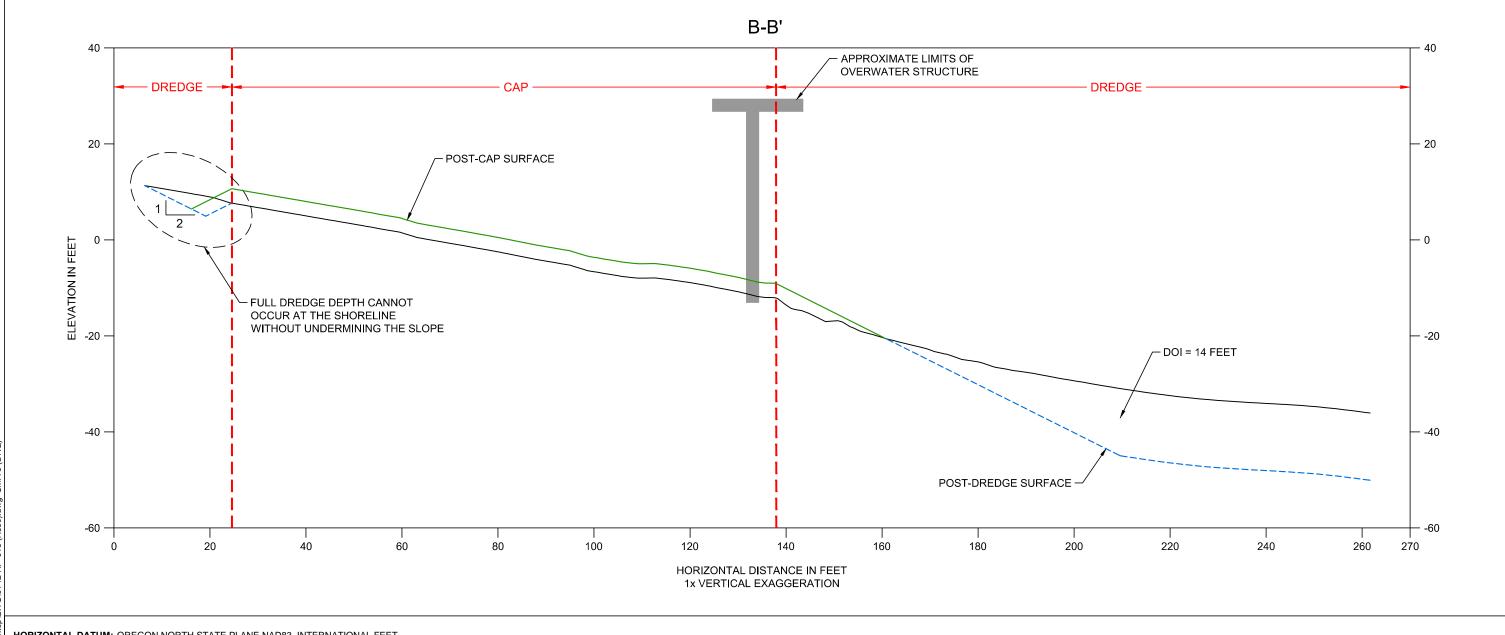


Figure 2a.2

Portland Harbor RI/FS

PRG Exceedances for HH and ECO PRGS

Conceptual Cross Section A-A' - SMA 1



VERTICAL DATUM: NAVD88

- 1. DOI = DRAFT FS DEPTH OF IMPACT
  2. THE DREDGE DEPTH IS EQUAL TO THE DOI. WHERE THE DOI IS GREATER THAN 15 FEET, THE DREDGE DEPTH IS LIMITED TO 15 FEET.
- 3. POST-DREDGE, POST-CAP, AND EMNR SURFACES SHOWN ARE BASED ON EPA PREFERRED TECHNOLOGY SCREENING PRESENTED JUNE 9, 2014. THESE SURFACES ARE CONCEPTUAL AND REPRESENT ANCHOR QEA'S UNDERSTANDING OF LIKELY IMPLEMENTABLE REMEDIATION GIVEN THE PHYSICAL CHARACTERISTICS OF THE AREAS EVALUATED. DREDGE DEPTHS ARE BASED ON ALTERNATIVE F DRAFT FS DOI AND ARE LIMITED TO A MAXIMUM OF 15 FEET.
- I. TECHNOLOGY AREAS SHOWN ARE FROM PREVIOUS EPA TECHNOLOGY SCREENING (APRIL 24, 2014).



— EPA PREFERRED TECHNOLOGY AREAS POST-DREDGE SURFACE - ALTERNATIVE F, EPA PREFERRED TECHNOLOGY

POST-CAP SURFACE - ALTERNATIVE F, **EPA PREFERRED TECHNOLOGY** 







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Figure 2b **Portland Harbor RI/FS Draft Feasibility Study EPA Preferred Technology Analysis** Conceptual Cross Section B-B' - SMA 3

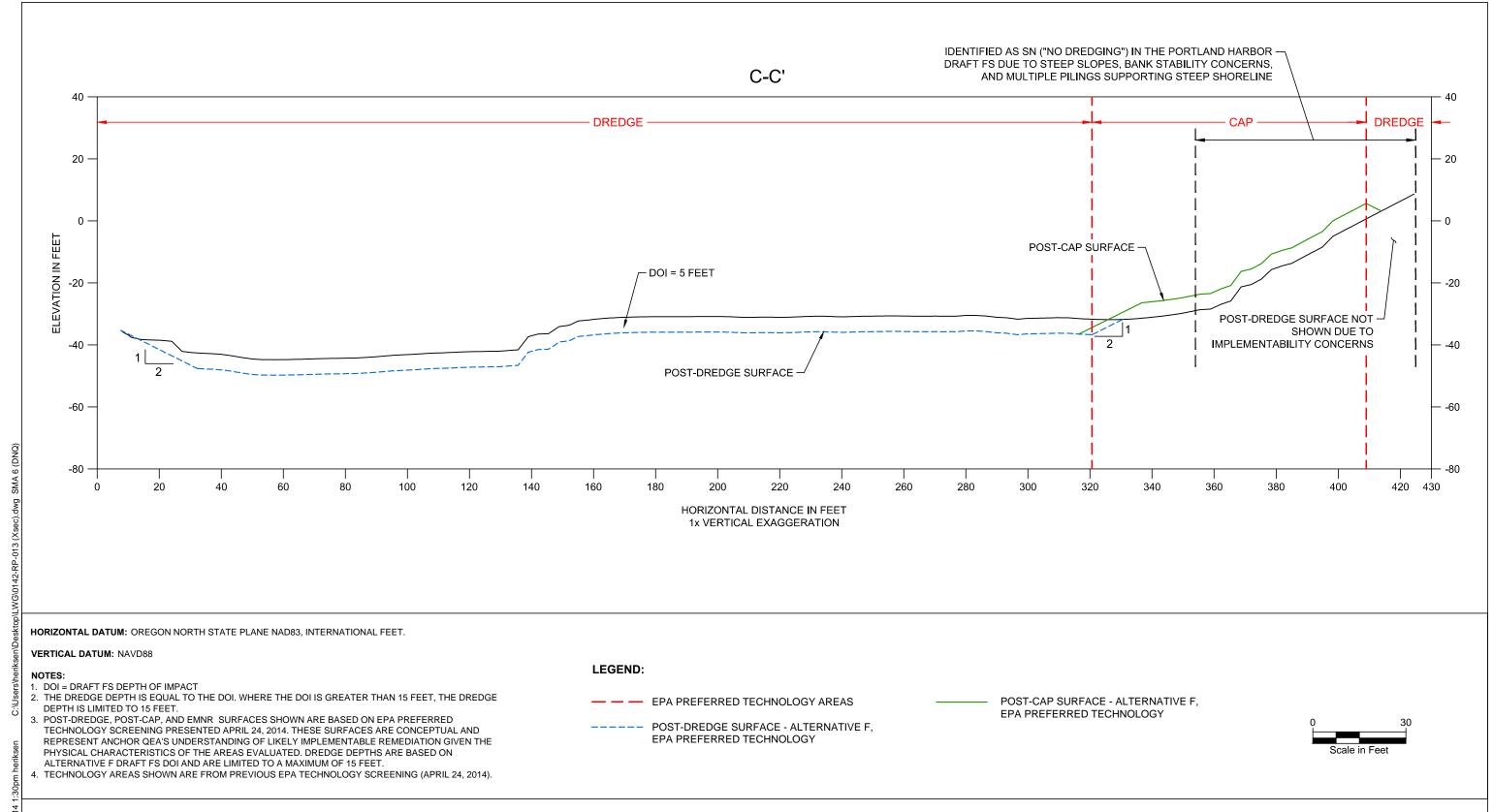
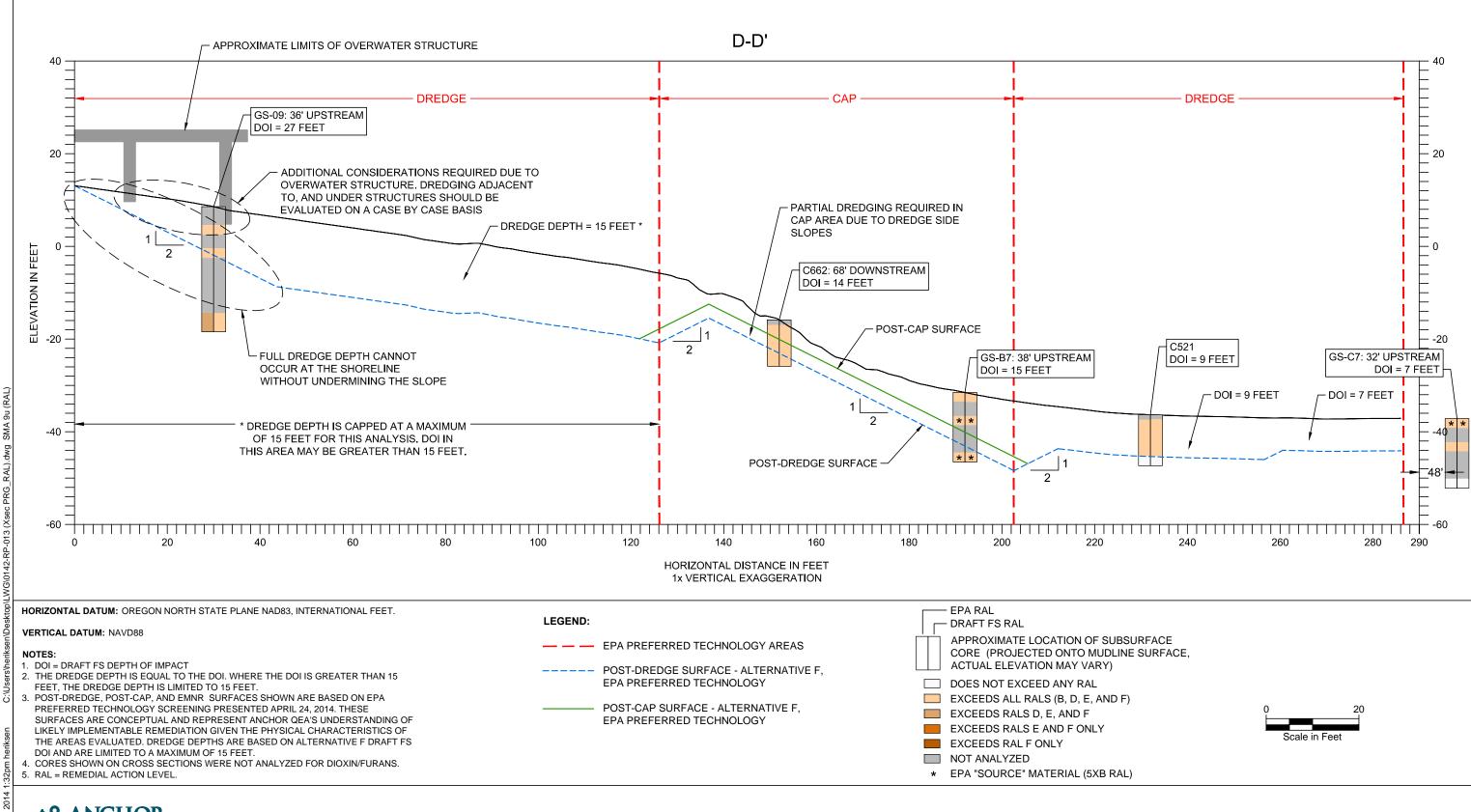






Figure 2c
Portland Harbor RI/FS
Draft Feasibility Study
EPA Preferred Technology Analysis
Conceptual Cross Section C-C' - SMA 6





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Figure 2d.1

Portland Harbor RI/FS

RAL Exceedances for Draft FS and EPA RALs

Conceptual Cross Section D-D' - SMA 9u

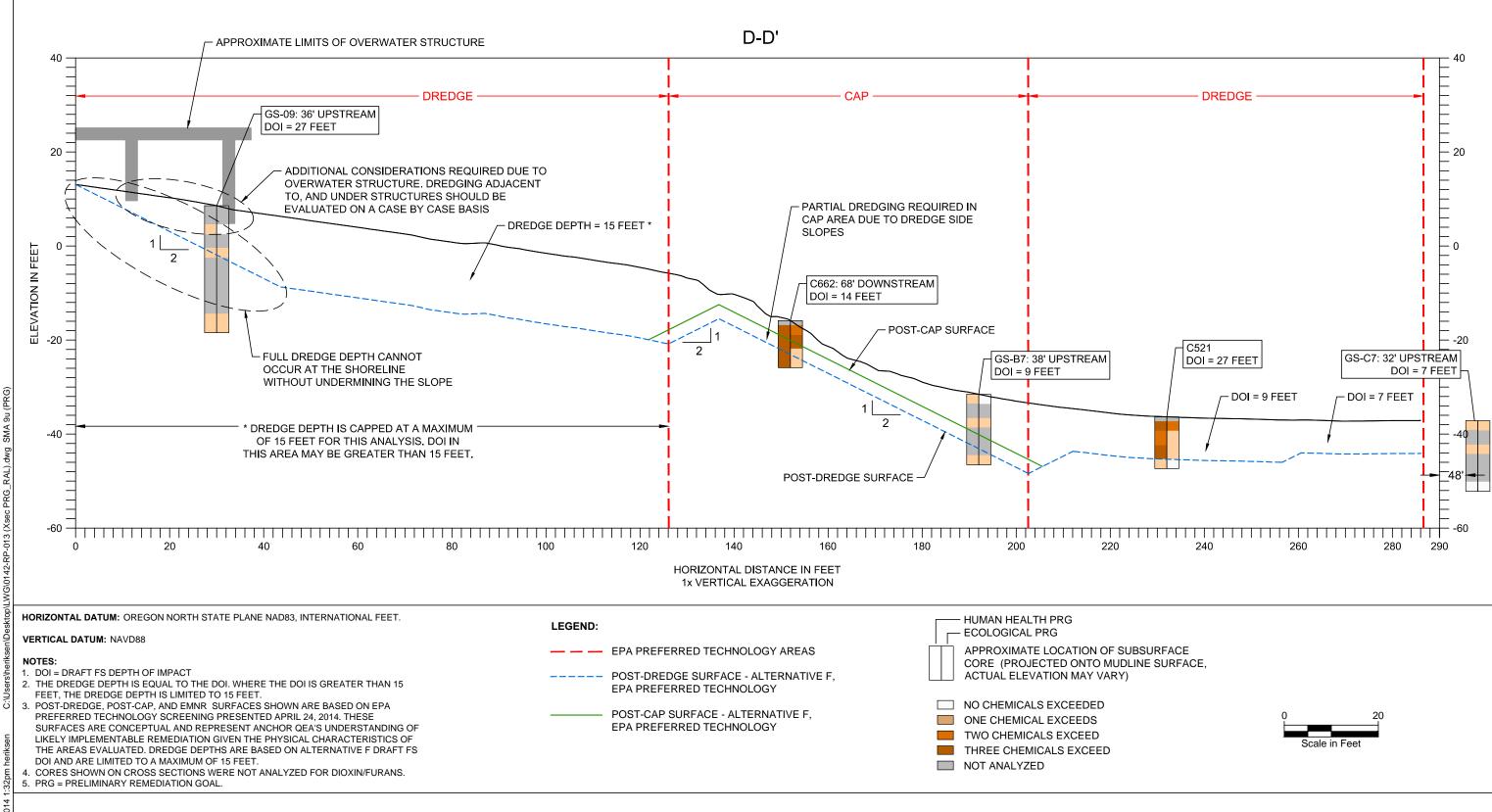






Figure 2d.2

Portland Harbor RI/FS

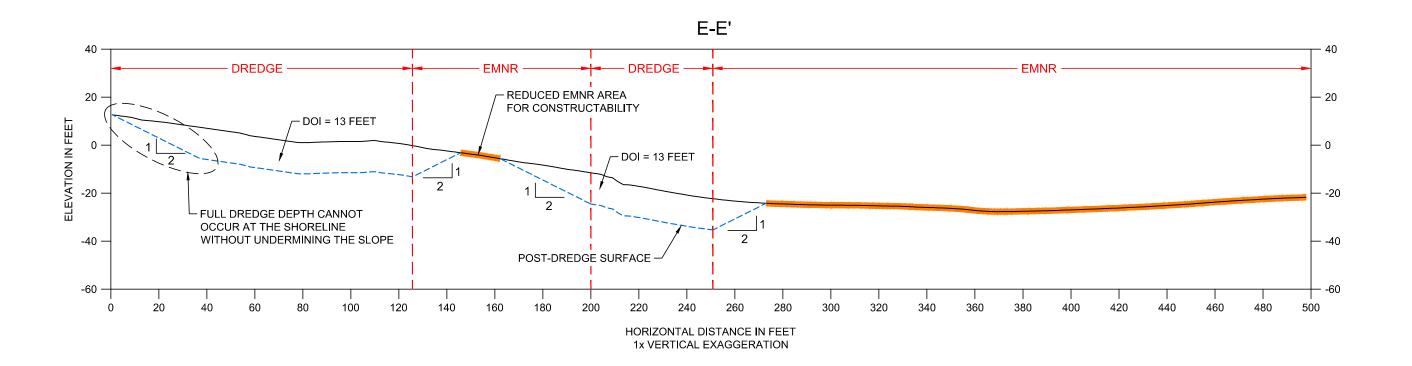
PRG Exceedances for HH and ECO PRGS

Conceptual Cross Section D-D' - SMA 9u





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HORIZONTAL DATUM: OREGON NORTH STATE PLANE NAD83, INTERNATIONAL FEET.

VERTICAL DATUM: NAVD88

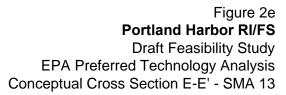
- DOI = DRAFT FS DEPTH OF IMPACT
   THE DREDGE DEPTH IS EQUAL TO THE DOI. WHERE THE DOI IS GREATER THAN 15 FEET, THE DREDGE DEPTH IS LIMITED TO 15 FEET.
- 3. POST-DREDGE, POST-CAP, AND EMNR SURFACES SHOWN ARE BASED ON EPA PREFERRED TECHNOLOGY SCREENING PRESENTED APRIL 24, 2014. THESE SURFACES ARE CONCEPTUAL AND REPRESENT ANCHOR QEA'S UNDERSTANDING OF LIKELY IMPLEMENTABLE REMEDIATION GIVEN THE PHYSICAL CHARACTERISTICS OF THE AREAS EVALUATED. DREDGE DEPTHS ARE BASED ON ALTERNATIVE F DRAFT FS DOI AND ARE LIMITED TO A MAXIMUM OF 15 FEET.
- 4. TECHNOLOGY AREAS SHOWN ARE FROM PREVIOUS EPA TECHNOLOGY SCREENING (APRIL 24, 2014).

### LEGEND:

— EPA PREFERRED TECHNOLOGY AREAS POST-CAP SURFACE - ALTERNATIVE F, **EPA PREFERRED TECHNOLOGY** POST-DREDGE SURFACE - ALTERNATIVE F, EPA PREFERRED TECHNOLOGY EMNR AREA - ALTERNATIVE F, **EPA PREFERRED TECHNOLOGY** 



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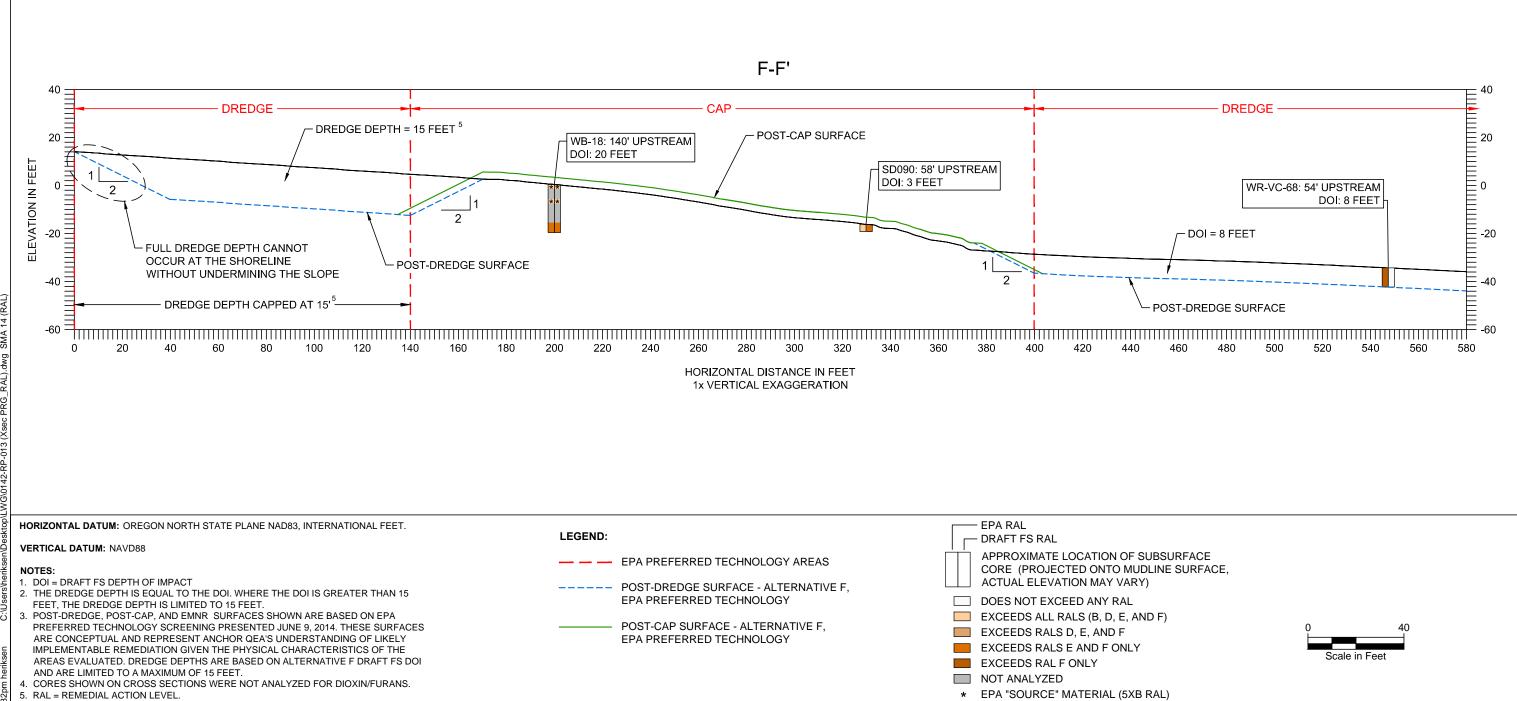






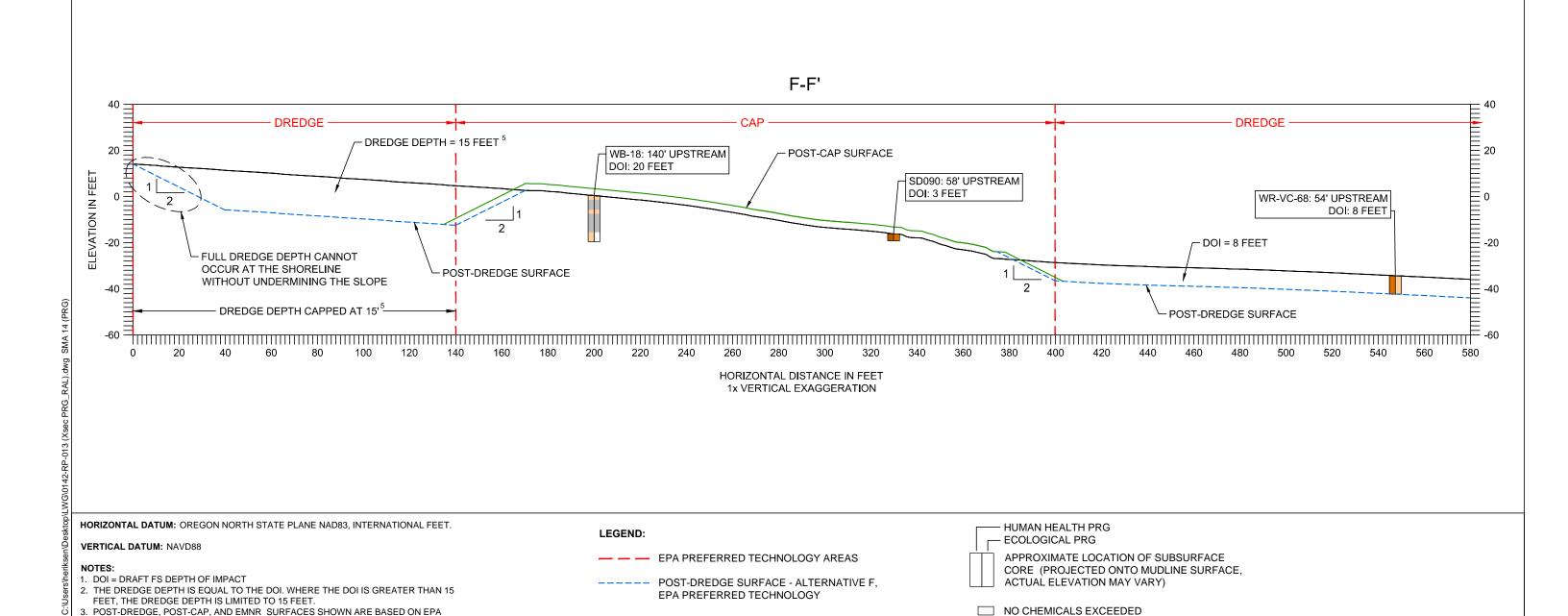
Figure 2f.1

Portland Harbor RI/FS

RAL Exceedances for Draft FS and EPA RALs

Conceptual Cross Section F-F' - SMA 14

Jul 02, 2014 1:32pm heriks







AND ARE LIMITED TO A MAXIMUM OF 15 FEET.

5. PRG = PRELIMINARY REMEDIATION GOAL.

PREFERRED TECHNOLOGY SCREENING PRESENTED JUNE 9, 2014. THESE SURFACES

ARE CONCEPTUAL AND REPRESENT ANCHOR QEA'S UNDERSTANDING OF LIKELY

IMPLEMENTABLE REMEDIATION GIVEN THE PHYSICAL CHARACTERISTICS OF THE AREAS EVALUATED. DREDGE DEPTHS ARE BASED ON ALTERNATIVE F DRAFT FS DOI

4. CORES SHOWN ON CROSS SECTIONS WERE NOT ANALYZED FOR DIOXIN/FURANS.

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POST-CAP SURFACE - ALTERNATIVE F,

**EPA PREFERRED TECHNOLOGY** 

ONE CHEMICAL EXCEEDS

TWO CHEMICALS EXCEED

THREE CHEMICALS EXCEED

■ NOT ANALYZED

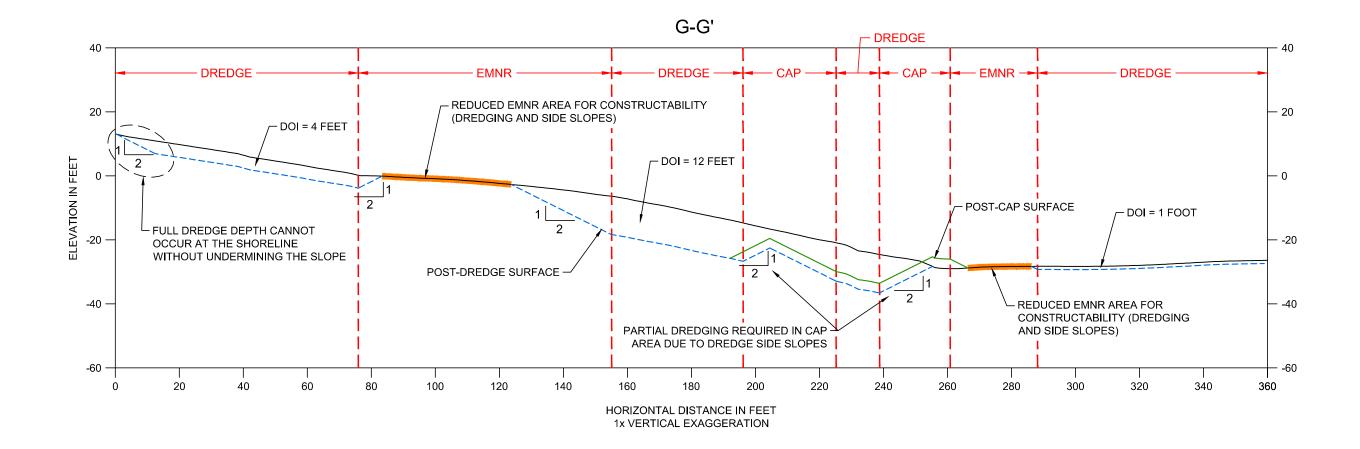
Figure 2f.2

Portland Harbor RI/FS

PRG Exceedances for HH and ECO PRGS

Conceptual Cross Section F-F' - SMA 14

Jul 02, 2014 1:32pm heriks



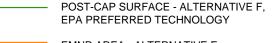
VERTICAL DATUM: NAVD88

- 1. DOI = DRAFT FS DEPTH OF IMPACT
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- 3. POST-DREDGE, POST-CAP, AND EMNR SURFACES SHOWN ARE BASED ON EPA PREFERRED TECHNOLOGY SCREENING PRESENTED APRIL 24, 2014, THESE SURFACES ARE CONCEPTUAL AND REPRESENT ANCHOR QEA'S UNDERSTANDING OF LIKELY IMPLEMENTABLE REMEDIATION GIVEN THE PHYSICAL CHARACTERISTICS OF THE AREAS EVALUATED. DREDGE DEPTHS ARE BASED ON ALTERNATIVE F DRAFT FS DOI AND ARE LIMITED TO A MAXIMUM OF 15 FEET.
- I. TECHNOLOGY AREAS SHOWN ARE FROM PREVIOUS EPA TECHNOLOGY SCREENING (APRIL 24, 2014).



**EPA PREFERRED TECHNOLOGY AREAS** 

POST-DREDGE SURFACE - ALTERNATIVE F, EPA PREFERRED TECHNOLOGY



EMNR AREA - ALTERNATIVE F, **EPA PREFERRED TECHNOLOGY** 

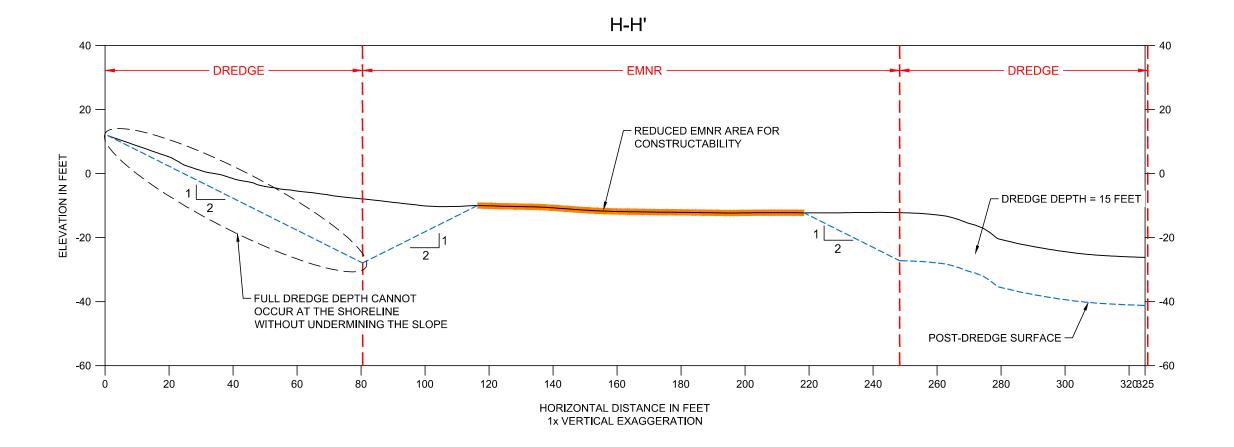






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Figure 2g **Portland Harbor RI/FS Draft Feasibility Study EPA Preferred Technology Analysis** Conceptual Cross Section G-G' - SMA 19



VERTICAL DATUM: NAVD88

- DOI = DRAFT FS DEPTH OF IMPACT
   THE DREDGE DEPTH IS EQUAL TO THE DOI. WHERE THE DOI IS GREATER THAN 15 FEET, THE DREDGE DEPTH IS LIMITED TO 15 FEET.
- 3. POST-DREDGE, POST-CAP, AND EMNR SURFACES SHOWN ARE BASED ON EPA PREFERRED TECHNOLOGY SCREENING PRESENTED APRIL 24, 2014. THESE SURFACES ARE CONCEPTUAL AND REPRESENT ANCHOR QEA'S UNDERSTANDING OF LIKELY IMPLEMENTABLE REMEDIATION GIVEN THE PHYSICAL CHARACTERISTICS OF THE AREAS EVALUATED. DREDGE DEPTHS ARE BASED ON ALTERNATIVE F DRAFT FS DOI AND ARE LIMITED TO A MAXIMUM OF 15 FEET.
- 4. TECHNOLOGY AREAS SHOWN ARE FROM PREVIOUS EPA TECHNOLOGY SCREENING (APRIL 24, 2014).

# LEGEND:

EPA PREFERRED TECHNOLOGY AREAS POST-CAP SURFACE - ALTERNATIVE F, **EPA PREFERRED TECHNOLOGY** POST-DREDGE SURFACE - ALTERNATIVE F, EPA PREFERRED TECHNOLOGY EMNR AREA - ALTERNATIVE F, **EPA PREFERRED TECHNOLOGY** 

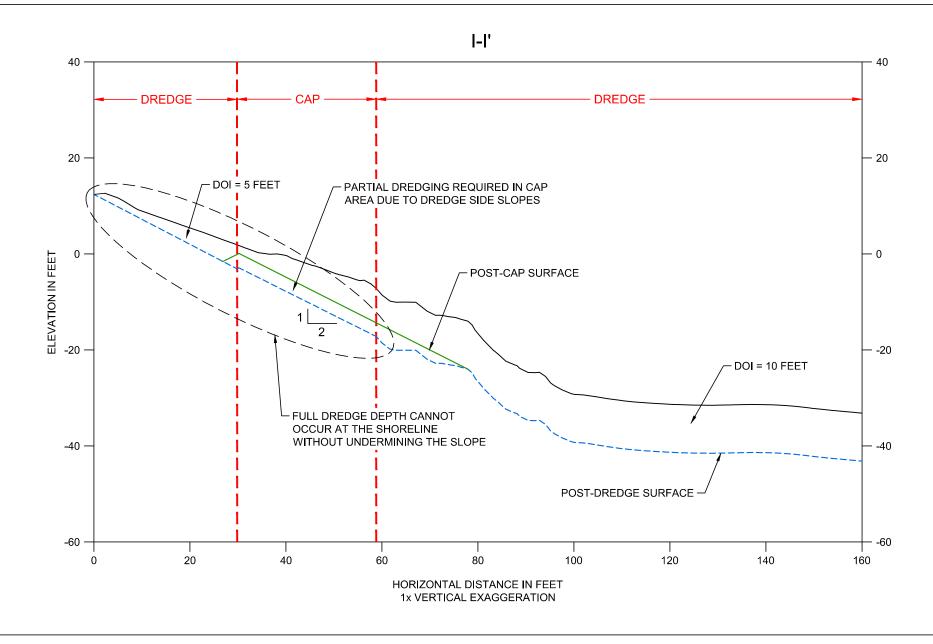






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Figure 2h **Portland Harbor RI/FS Draft Feasibility Study EPA Preferred Technology Analysis** Conceptual Cross Section H-H' - SMA 20



VERTICAL DATUM: NAVD88

## NOTES:

1. DOI = DRAFT FS DEPTH OF IMPACT 2. THE DREDGE DEPTH IS EQUAL TO THE DOI. WHERE THE DOI IS GREATER THAN 15 FEET, THE DREDGE

- DEPTH IS LIMITED TO 15 FEET. 3. POST-DREDGE, POST-CAP, AND EMNR SURFACES SHOWN ARE BASED ON EPA PREFERRED
- TECHNOLOGY SCREENING PRESENTED APRIL 24, 2014, THESE SURFACES ARE CONCEPTUAL AND REPRESENT ANCHOR QEA'S UNDERSTANDING OF LIKELY IMPLEMENTABLE REMEDIATION GIVEN THE PHYSICAL CHARACTERISTICS OF THE AREAS EVALUATED. DREDGE DEPTHS ARE BASED ON ALTERNATIVE F DRAFT FS DOI AND ARE LIMITED TO A MAXIMUM OF 15 FEET.
- 4. TECHNOLOGY AREAS SHOWN ARE FROM PREVIOUS EPA TECHNOLOGY SCREENING (APRIL 24, 2014).



EPA PREFERRED TECHNOLOGY AREAS POST-DREDGE SURFACE - ALTERNATIVE F, EPA PREFERRED TECHNOLOGY

POST-CAP SURFACE - ALTERNATIVE F, EPA PREFERRED TECHNOLOGY







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Figure 2i **Portland Harbor RI/FS Draft Feasibility Study EPA Preferred Technology Analysis** Conceptual Cross Section I-I' - SMA 25